

PATENT COOPERATION TREATY

PCT

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference NF20040003	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/CN2004/001064	International filing date (day/month/year) 20. Sep. 2004 (20. 09. 2004)	Priority date (day/month/year) 26. Sep. 2003 (26. 09. 2003)
International Patent Classification (IPC) or national classification and IPC <i>see Supplemental Box</i>		
Applicant LI Guoqiao, SONG Jianping		
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>2</u> sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input checked="" type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>		
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>		
Date of submission of the demand 04.Jul.2005 (04.07.2005)	Date of completion of this report 13.Feb.2006 (13.02.2006)	
Name and mailing address of the IPEA/CN The State Intellectual Property Office, the P.R.China, 6 Xitucheng Rd., Jimen Bridge, Haidian District, Beijing, China 100088	Authorized officer SHENG Qian	
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Form PCT/IPEA/409 (cover sheet) (April 2005)

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/CN2004/001064

Box No. I Basis of the report

1. With regard to the language, this report is based on:

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rules 12.3(a) and 23.1(b))
- ☐ publication of the international application (Rule 12.4(a))
- ☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

- ☒ the international application as originally filed/furnished
- ☐ the description:

pages _____ as originally filed/furnished

pages * _____ received by this Authority on _____

pages * _____ received by this Authority on _____

☐ the claims:

pages _____ as originally filed/furnished

pages * _____ as amended (together with any statement) under Article 19

pages * _____ received by this Authority on _____

pages * _____ received by this Authority on _____

☐ the drawings:

pages _____ as originally filed/furnished

pages * _____ received by this Authority on _____

pages * _____ received by this Authority on _____

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to sequence listing (specify): _____

4. ☒ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☒ the description, pages 1
- ☒ the claims, Nos. 1, 2
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to sequence listing (specify): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/CN2004/001064Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

1. Statement:

Novelty (N)

Claims

2

YES

Claims

1

NO

Inventive step (IS)

Claims

1,2

YES

Claims

none

NO

Industrial applicability (IA)

Claims

1,2

YES

Claims

none

NO

2. Citations and explanations (Rule 70.7)

D1: CN,A,1305810

Claim 1 lacks novelty over D1. D1 disclosed a pharmaceutical composition composed of dihydroartemisinin (1 part) and piperazine (6 parts), wherein dihydroartemisinin may be replaced by the analogue thereof, i.e. artemisinin, and the composition may be in the forms of tablets, suppositories, granules and injections (see D1 claims 1-3, specification P.2, L.9-12). Thus, the larger scope of claim 1 lacks novelty (Article 33(2) PCT).

The smaller scope of claim 1 is novel (Article 33(2) PCT). The smaller scope of claim 1 and claim 2 fulfill novelty and inventive steps, since the prior arts don't disclose them and they are not obvious (Article 33(3) PCT).

The claims 1-2 are industrially applicable and meet the criteria set out in PCT Article 33(4).

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Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

There are two different scopes in claim 1, thus claim 1 is not clear (Article 6 PCT). The smaller scope of claim 1 is not within the larger scope of claim 1, i.e. the number 0.6 is not within 0-0.2, thus claim 1 is not clear, too (Article 6 PCT).

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

The amendments filed with the letter dated on 04. Jul. 2005 introduce subject-matters which extends beyond the content of the application as filed and contrary to Article 34(2)(b)PCT, because the specific numbers such as piperaquine 5 parts and primaquine 0-0.05 parts are not disclosed in the application as filed. Although the numbers are within the scope as filed, the amendments extend beyond the content of the application as filed.

A61K 31/336 (2006.01) i

A61K 31/496 (2006.01) i

A61K 31/4706 (2006.01) i

A61P 33/06 (2006.01) i

专 利 合 作 条 约

PCT

专利性国际初步报告

(PCT 第II章)

(PCT 36 和细则 70)

中请人或代理人的档案号 NF20040003	关于后续行为 参见 PCT/PEA/416 表	
国际申请号 PCT/CN2004/001064	国际申请日(日/月/年) 20.9月2004(20.09.2004)	优先权日(日/月/年) 26.9月2003(26.09.2003)
国际专利分类(IPC)或者国家分类和 IPC 两种分类 参见补充栏		
中请人 李国桥, 宋建平		

1. 本报告是国际初步审查单位根据条约 35 做出的国际初步审查报告, 并依照条约 36 将其传递给中请人。
2. 本报告共计 5 页, 包括扉页。
3. ☒ 本报告还有附件。
- a. ☒ (传送给国际局和中请人) 共计 2 页, 包含
- ☐ 修改后的并且作为本报告基础的说明书修改页、权利要求书修改页和/或附图修改页, 和/对本国际初步审查单位所做出的更正页(见 PCT 细则 70.16 和行政规程 607)。
- ☒ 国际初步审查单位认为修改超出原始公开范围的取代页, 参见第 1 栏第 4 项和补充栏。
- b. ☐ (传送给国际局) 共计 (指明电子载体的类型和数量) _____, 包含有在序列表有关的补充栏中
- 指明的电子形式的序列表和/或与其相关的表格。(行政规程 802)

4. 本报告包括关于下列各项的内容:

- I ☒ 报告的基础
- II ☐ 优先权
- III ☐ 不做出关于新颖性、创造性和工业实用性的意见
- IV ☐ 缺乏发明的单一性
- V ☒ 按条约 35(2)关于新颖性、创造性或工业实用性的理由, 支持这种意见的引证和解释
- VI ☐ 引用的某些文件
- VII ☒ 国际申请中的某些缺陷
- VIII ☐ 对国际申请的某些意见

提交要求书的日期 04.7月2005(04.07.2005)	完成本报告的日期 13.2月2006(13.02.2006)
中华人民共和国国家知识产权局 IPEA/CN 中国北京市海淀区西土城路 8 号(100088)	授权官员 盛倩
传真号: (86-10)62019451	电话号码 (86-10)62085233

专利性国际初步报告

国际申请号

PCT/CN2004/001064

I. 报告的基础

1. 关于语言, 本报告将基于:

☒ 申请提出时使用的语言。☐ 该申请的_____语言译文, 提供该种语言的译文是☐ 为了国际检索而提交的译文所使用的语言(细则 12.3 和 23.1 (b))。☐ 为了国际申请的公布而提交的译文所使用的语言(细则 12.4)。☐ 为了国际初步审查而提交的译文所使用的语言(细则 55.2 和/或 55.3)。

2. 关于国际申请中各个部分, 本报告基于(申请人为答复受理局根据条约 14 所发通知而提交的替换页, 在本报告中视为“原始提交”的文件, 不作为本报告的附件)

☒ 原始提交的国际申请。☐ 说明书, 第_____页 原始提交的,

第_____页 初审单位收到的,

第_____页 初审单位收到的。

☐ 权利要求, 第_____页, 原始提交的,
第_____页, 按条约 19 条修改的(附有说明),

第_____页 初审单位收到的,

第_____页 初审单位收到的。

☐ 附图, 第_____页, 原始提交的。

第_____页*, 初审单位收到的,

第_____页*, 初审单位收到的。

☐ 序列表和/或相关表格——参见与序列表有关的补充栏。

3. 修改导致以下内容的删除:

☐ 说明书, 第_____页☐ 权利要求, 第_____项☐ 附图, 第_____页, 图_____☐ 序列表(具体说明) _____☐ 与序列表相关的表格(具体说明) _____

4. ☒ 由于本报告附件的(某些)修改, 如下所列, 被认为超出了原始公开的范围, 如补充栏所示, 因此本报告是按照没有修改的情况做出的(细则 70.2(o))。

☒ 说明书, 第 1 页☒ 权利要求, 第 1, 2 项☐ 附图, 第_____页, 图_____☐ 序列表(具体说明) _____☐ 与序列表相关的表格(具体说明) _____

*如果第 4 项适用, 一些或全部的文件页可能做出“被取代”标记。

已依取代为修改页

专利性国际初步报告

国际申请号

PCT/CN2004/001064

V. 按条约 35 (2) 关于新颖性、创造性或工业实用性的意见：支持这种理由的引证和解释

1. 意见

新颖性(N)	权利要求 2	是
	权利要求 1	否
创造性(IS)	权利要求 1,2	是
	权利要求 无	否
工业实用性(LA)	权利要求 1,2	是
	权利要求 无	否

2. 引证和解释 (细则 70.7)

D1: CN,A,1306810

D1 公开了由 1 份双氢青蒿素和 6 份哌嗪组成的药物组合物，其中的双氢青蒿素可以替换为其同类物，即青蒿素。该药物组合物可以制成片剂、栓剂、颗粒剂和注射剂（参见 D1 权利要求 1-3，说明书第 2 页 9-12 行），因此，权利要求 1 中大范围的技术方案（即包括 1 份青蒿素、3-9 份哌嗪、0-0.2 份伯氨喹的技术方案）不具备新颖性(专利合作条约 PCT 33(2))。

现有技术没有公开权利要求 1 中小范围的技术方案和/或权利要求 2 的技术方案。因此，权利要求 2 具备新颖性(专利合作条约 33(2) PCT)。同时，权利要求 1 中小范围的技术方案和/或权利要求 2 的技术方案对于本领域技术人员来说是非显而易见的，因此，权利要求 1 和 2 具备创造性(专利合作条约 PCT 33(3))。

权利要求 1 和 2 可以在工业上应用，因此，具备工业实用性(专利合作条约 PCT 33(4))。

专利性国际初步报告

国际申请号

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VII. 国际申请中的某些缺陷

国际申请在形式上或内容上存在下列缺陷:

权利要求 1 中存在两个不同的保护范围, 因此, 权利要求 1 是不清楚的(专利合作条约 PCT 第 6 条)。同时, 优选范围并未落在大范围之内, 即 0.6 不在 0-0.2 范围之内, 因此, 权利要求 1 还是不清楚(专利合作条约 PCT 第 6 条)。

专利性国际初步报告

国际申请号

PCT/CN2004/001064

补充栏

当前面的任何一栏地方不够时使用

续栏:

2005年7月4日提交的修改文本超出了原始申请文件记载的范围, 因为具体的数值点(例如呋啉5份、伯氮啉0-0.05份)在原始申请文件中没有公开, 即使该数值点落在了原始公开的大范围之内, 仍然认为这样的修改是超范围的(34(2)(b)PCT)。

A61K 31/336 (2006.01) i

A61K 31/496 (2006.01) i

A61K 31/4706 (2006.01) i

A61P 33/06 (2006.01) i

PCT/CN 2004/001064

权 利 要 求 书

1. 一种复方青蒿素, 其特征在于用该复方可制成片剂、儿童颗粒剂、栓剂、混悬糖浆或干粉, 复方包括以下成份: 青蒿素 (Artemisinin)、哌喹 (Piperaquine)、伯氨喹

5 (Primaquine), 三药的配伍比例范围是:

青蒿素 (Artemisinin) 1 份

哌喹 (Piperaquine) 5 份

伯氨喹 (Primaquine) 0—0.05 份

三药的最佳配比是 1: 5: 0.04。

10 2. 根据权利要求 1 所述的复方青蒿素, 其特征在于所述的伯氨喹还可单独制成片剂与青蒿素+哌喹的混合片剂同时服用。

U 4 · 7月 2005 (0 4 · 0 7 · 2 0 0 5)
PCT/CN 2004 / 0 0 1 0 6 4复方青蒿素所属技术领域

本发明涉及治疗疟疾的药物，特别是具有高效速效疗效的复方青蒿素。

5

背景技术

现有技术中的治疟药物有的采用青蒿素衍生物（如双氢青蒿素、青蒿琥酯、蒿甲醚、蒿乙醚）与长半衰期的哌喹配伍，由于多量的磷酸盐对胃肠道有致恶性呕吐的副作用而影响疗效，一疗程总量分3次服用则胃肠道副反应高达10%，分4次服用可降低至3-5%。

10 现有技术的治疟药物还存在生产工艺长，成本高，药物稳定保质期短，服用量大等缺点。

发明内容

本发明的目的旨在克服现有技术的不足而提供一种具有疗程短，副作用更小，原料成本更低、服用更方便、有高效速效的复方青蒿素。

15 本发明的目的是这样实现的：

一种复方青蒿素，用该复方可制成片剂、儿童颗粒剂、栓剂、混悬糖浆或干粉，复方包括以下成份：青蒿素（Artemisinin）、哌喹（Piperaquine）、伯氨喹（Primaquine），三药的配伍比例范围是：

青蒿素（Artemisinin）	1 份
20 哌喹（Piperaquine）	5 份
伯氨喹（Primaquine）	0—0.05 份

三药的最佳配比是 1：5：0.04。

——所述的伯氨喹还可单独制成片剂与青蒿素+哌喹的混合片剂同时服用。

25 本发明通 600 多例临床试验：对多重抗药性恶性疟、间日疟和三日疟证明本药具有速效、高效、低毒、短疗程、快速清除传染源以阻断疟疾传播的特点，其疗效、功能明显优于目前国内外的同类药。

具体实施方式

按下述配方取量：

30 青蒿素（Artemisinin）	160g
哌喹（Piperaquine）	750g
伯氨喹（Primaquine）	6g
辅料（羟丙基纤维素等）	适量
制成	1000 片
35 制剂工艺：	